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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/424,684	11/29/1999	KIYOFUMI INANAGA	7246/57889	8380

7590 06/17/2005
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EXAMINER

PENDLETON, BRIAN T

ART UNIT	PAPER NUMBER
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2644

DATE MAILED: 06/17/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/424,684	Applicant(s) INANAGA ET AL.	
	Examiner Brian T. Pendleton	Art Unit 2644	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 December 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,2,7 and 8 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,2,7 and 8 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 29 March 1999 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

Claims 3-6 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention and also canceled by Applicant, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on 12/22/04.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 2, and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lee, US Patent 5,590,204 in view of Griesinger, US Patent 5,870,480. Lee discloses a device for reproducing 2-channel sound field for a headphone in figure 1 comprising a first signal processing circuit 10, a second signal processing circuit 30, and digital signal processor 70 which is illustrated in figure 4. The digital signal processor 70 has first signal processing means 401, 402, 407, 408 and second signal processing means 403-106, 409-414. Lee does not disclose generating and processing means for inputting left and right channel direction components of the output audio signals of the circuit 10 and generating signals that represent positions of sound images corresponding to the left channel direction components and right channel directional components as sound image components (per claim 1) or a variable attenuating circuit for inputting left and right channel direction components of the output audio signals of the circuit 10, varying amounts of sound images corresponding to the left channel directional components as

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sound image components and outputting signals that represent positions of the sound images.

Griesinger discloses a signal encoder in figure 11 for steering front signals and improving separation for simultaneous side inputs comprising variable attenuators 290-293 for varying amounts of sound images corresponding to the left channel directional components as sound image components. It would have been obvious to one of ordinary skill in the art at the time of invention to modify Lee to have the encoder of Griesinger in the digital signal processor 70 for the purpose of improving the sound quality with respect to front signals.

Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lee in view of Griesinger as applied to claim 1 above, and further in view of McGrath. The combination of Lee and Griesinger does not disclose detecting means for detecting the motion of the head of the listener, controlling means for controlling the signal processing corresponding to the detecting means and wirelessly supply the output signals. McGrath teaches a method and apparatus of processing spatialized audio comprising audio inputs, signal processor 2, signal processor 6 and transmitter 5 and receiver 9 for detecting the motion of the head of the listener. Signal processing in unit 6 is controlled based on the motion of the head of the listener. It would have been obvious to one of ordinary skill in the art at the time of invention to modify the combination of Lee and Griesinger to include the head tracking apparatus of McGrath for the purpose of improving the realism of listening to audio with headphones. With respect to wirelessly supplying the output signals, it was notoriously well known in the art at the time of invention to use wireless signals to increase the mobility of the listener.

Conclusion

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brian T. Pendleton whose telephone number is (571) 272-7527. The examiner can normally be reached on M-F 7-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sinh Tran can be reached on (571) 272-7564. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Brian T. Pendleton
Examiner
Art Unit 2644



btp